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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,808

03/14/2006

Anne Dez

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EXAMINER

KOEHLER, CHRISTOPHER M

ART UNIT

PAPER NUMBER

3726

NOTIFICATION DATE

DELIVERY MODE

03/30/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/559,808	<b>Applicant(s)</b> DEZ ET AL.	
	<b>Examiner</b> Christopher M. Koehler	<b>Art Unit</b> 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/8/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

#### **Content of Specification**

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

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- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
  - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
  - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the

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invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 12-14, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishii et al. (US Patent No. 6,722,174).

**Claim 12-14 and 18:**

Nishii teaches a method for continuous direct casting of a metal (steel, ferrous; col. 7, lines 40-45) strip (20) according to which said strip is cast by solidification of liquid metal in an ingot mould with cooled, moving walls (col. 7, lines 40-63 and col. 2, lines 31-43; 1, figures 9 and 14), said strip (20) is then given in-line hot rolling (col. 20, lines 39-54, col. 22, line 63-col. 23, line 10), wherein a product is applied to the surface of the strip as it exits the ingot mould, which leaves a lubricant layer on said surface subsisting during the time the strip is hot rolled and causing release of gases

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contributing towards the protection of said surface from oxidation comprising a carbonaceous material, graphite (col. 16, lines 43-59).

Claim 19:

Nishii teaches a plant for the continuous direct casting (col. 7, lines 40-63; 1, figures 9 and 14) of a thin metal strip (20), of the type comprising an ingot mould with cooled, moving walls in which solidification of said strip occurs (col. 2, lines 31-43; 1, figures 9 and 14), and an in-line hot rolling unit (figures 9 and 14) for said solidified strip (col. 20, lines 39-54, col. 22, line 63-col. 23, line 10), wherein it comprises means for applying a product to the surface of said strip as it exits the ingot mould which leaves a lubricant layer subsisting on said surface as it enters the hot rolling unit (col. 16, lines 43-59).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishii in view of Goto et al. (US Patent No. 5,352,373).

Claim 15:

Nishii teaches that the carbonaceous lubricant is graphite but does not disclose that the lubricant may comprise a grease containing calcium carbonate. Goto teaches that acceptable lubricants include graphite (col. 5, lines 64-65) but more preferably an

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oil containing calcium carbonate (col. 3, lines 16-45) for hot rolling of metal slabs (col. 1, lines 6-17). It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the lubrications of Goto in the method of Nishii in order to effectively prevent galling, scale formation and roll wear (Goto, col. 2, lines 9-30)

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishii in view of DuBois et al. (US Patent No. 3,048,540).

Claim 16:

Nishii teaches that the carbonaceous lubricant is graphite but does not disclose that the lubricant may comprise acetylene. DuBois teaches the use of lubricants comprising grease (col. 1, lines 30-37) and acetylene black (col. 1, line 68-col. 2, line 12). It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the lubrications of DuBois in the method of Nishii because of the greases superior working stability and water resistance properties (DuBois, col. 5, lines 36-40)

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishii in view of Sheu et al. (US Patent No. 5,508,119).

Claim 17:

Nishii teaches that the reduction rate of the hot-rolling process is not less than 30% (col. 7, line 64-col. 8, line 20) but does not explicitly teach that it is at least 50%. Sheu teaches that the hot rolling of a carbonaceous lubricated metal sheet (col. 2, line 51-col. 3, line 45) can achieve reduction ratios on the order of 35-60% (col. 10, lines 45-



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62). It would have been obvious to one of ordinary skill in the art at the time of the invention in light of the ratio teachings of Sheu that Nishii is capable of at least 50% reduction ratios.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishii in view of Takeuchi et al. (US Patent No. 6,145,581).

Claim 20:

Nishii teaches the use of rotary continuous casting machines (col. col. 2, lines 31-43) but does not explicitly describe their construction. Takeuchi teaches a rotary continuous casting machine (figure 1) wherein the moving walls are the sides of two rolls (1a, 1b) rotating in opposite directions (figure 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to look to Takeuchi to describe a detailed structure of rotary casting machines used in Nishii.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishii.

Claim 21:

Nishii teaches the invention cited with the exception of the moving walls comprising belts. At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art, to have used belts because applicant has not disclosed that the use of belts provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the rotary casting taught by Nishii or the claimed belt casting because either continuous casting technique performs the same function of continuously casting a

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metal slab equally well. Therefore, it would have been an obvious matter of design choice to modify Nishii to obtain the invention specified in claim 21.

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishii in view of Applicant Admitted Prior Art (AAPA, Background of Specification).

Claim 22:

Nishii teaches the continuous casting, lubricating and hot-rolling method above but does not explicitly teach an inertization chamber for the strip between its exit from the ingot mold and its entry into the hot-rolling unit. AAPA teaches that it is well known in the art to use inertization chambers between continuous casting rolls and the rolling mill (specification page 1, line 28-page 2, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided an inertization chamber as taught by AAPA in the process of Nishii in order to further ensure that oxidation of the slab is prevented.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Koehler whose telephone number is (571)272-3560. The examiner can normally be reached on Mon.-Fri. 7:30A-4:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jermie E Cozart/  
Primary Examiner, Art Unit 3726

/C. M. K./  
Examiner, Art Unit 3726